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A NEW GENUS AND TWO NEW SPECIES OF SPIDERS COLLECTED BY BUFO QUERCICUS (HOLBROOK)

By C. R. Crosby and Sherman C. Bishop.

Family LINYPHIIDAE

FLORICOMUS n. gen.

Type **F. floricomus n. sp.**

The male only is known. Abdomen with a well developed dorsal sclerite. Head without impressions and armed with a single horn or protuberance arising just below the anterior median eyes. Embolic division of the genital bulb without the tailpiece present in *Ceraticelus, Ceratinopsis* and related genera. Hind coxae separated by less than the diameter.

Floricomus floricomus n. sp.

Male. Length, 1.25 mm. without the cephalic horn. Cephalothorax grayish yellow, narrowly margined with dark gray; viewed from above evenly rounded on the sides behind the middle; in front of the middle, the sides are nearly straight and strongly convergent, bluntly rounded in front; viewed from the side, the outline is gently arched over the posterior part, slightly depressed at the cervical groove and then arched rather steeply to the posterior eyes. Head only moderately elevated. Clypeus high, nearly vertical and slightly concave. Close under the anterior median eyes there arises a long, stout horn directed forward and upward, pointed at the tip (fig. 1). The upper surface of the horn is clothed with numerous capitate hairs increasing in length towards the tip of the horn. Each hair bears a large, recurved barb at the tip (fig. 4).

Posterior eyes in a straight line, the median separated from

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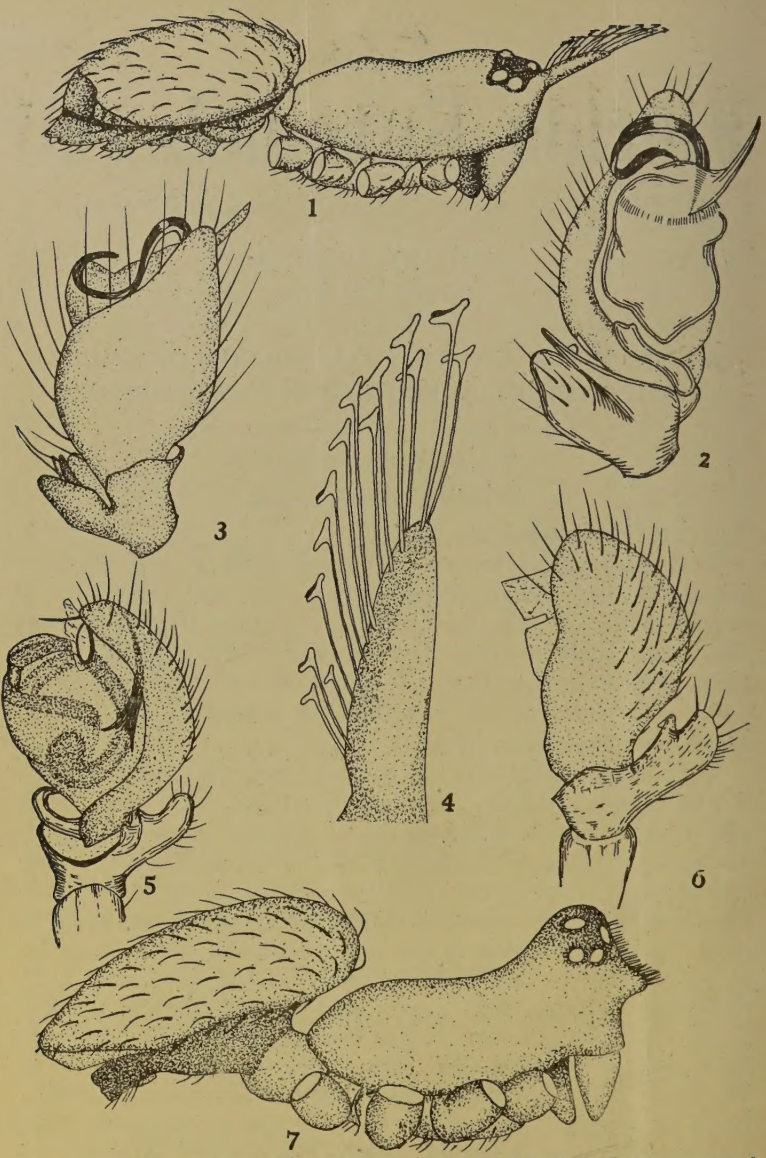

Fig. 1. *Floricomus floricomus.* Male, side view of body with legs removed.
Fig. 2. *Floricomus floricomus.* Right palpus, ventral view.
Fig. 3. *Floricomus floricomus.* Right palpus, dorsal view.
Fig. 4. *Floricomus floricomus.* The horn enlarged to show the structure of the hairs.
Fig. 5. *Floricomus pythonicus.* Left palpus, ventral view.
Fig. 6. *Floricomus pythonicus.* Left palpus, dorsal view.
Fig. 7. *Floricomus pythonicus.* Male, side view of body with legs removed.

each other by three-fourths the diameter and from the lateral by one half as much. Anterior eyes in a procurved line, the median placed close above the base of the horn, smaller than the lateral, separated by the diameter and from the lateral by the diameter of the latter.

Sternum broad, dark, widest between first and second coxae. Hind coxae separated by less than the diameter. Labium dark gray, endites lighter. Chelicerae short and thick, grayish yellow. Legs and palpus yellowish.

Abdomen with a large, strongly chitinized dorsal sclerite. Soft parts of abdomen dark gray. Ventral sclerites not in good condition for study, apparently not very well developed.

Femur of palpus straight, cylindrical; patella of the same thickness. Ratio of length of femur to that of patella 13 to 8. Tibia short, bearing a short, bluntly pointed dorsal process and on the outer side opposite the paracymbium there is a large rounded lobe bearing two strong spines, the inner the larger (fig. 3). Paracymbium small and very strongly curved, so as to almost form a circle. Tegulum large, the bezel strongly developed and produced ventrally into a long slender point. Embolic division without a tail-piece. The embolus arises from behind the bezel, makes a large free turn over the end of bulb, curves back on the dorsal side and then back so that the tip lies under the edge of the bezel, (fig. 2).

Holotype: male.

Georgia: Okefinokee Swamp, May 28, 1922. 1 ♂ (A. H. Wright).

Stomach of *Bufo quercicus* Holbrook.

Floricomus pythonicus n. sp.

Male. Length, 1.2 mm. Cephalothorax grayish yellow, margined with dark gray; viewed from above, broad and evenly rounded on the sides, narrowed towards the front and pointed in front of the eyes; viewed from the side, evenly arched behind the cervical groove, then rising steeply to the posterior median eyes, then rounded and descending to the tip of the clypeal protuberance. (fig. 7.) Below this the clypeus is very strongly concave. The protuberance appears triangular from above and beak-shaped from the side. It is thickly clothed above with short stiff erect hairs.

Posterior eyes in a straight line, equal, the median separated from each other by half the diameter and from the lateral by

the diameter. Anterior eyes in a slightly procurved line, smaller than the lateral, separated from each other by about half the diameter from the lateral by a radius of the latter.

Sternum and labium dark, endites gray. Hind coxae separated by less than the diameter. Chelicerae short and stout, dusky yellowish. Legs and palpi brownish yellow.

Abdomen with a large strongly chitinized dorsal sclerite which is reddish brown, finely punctate and sparsely clothed with short, stiff, appressed hairs. Ventral sclerites not in good condition for study.

Femur of palpus nearly straight, cylindrical; patella short, wider distally. Ratio of length of femur to patella, 11 to 7. Tibia short with the dorsal apophysis strongly compressed laterally. This process viewed from above appears narrow and pointed but from the side it is broad, rounded above over the end, with a nearly square corner below; on the middle of the outer markin there is a large quadrate tooth or branch (fig. 6). The paracymbium small, thin and strongly curved. The genital bulb is of the same type as in *floricomus* but the bezel is not produced into such a long point ventrally. The course of the embolus is similar to that species but the first outward curve is not so prominent. (fig. 5).

Holotype, male.

Florida: Palm Beach, March 1919. 1 ♂ (Thomas Barbour) Stomach of *Bufo quercicus* Holbrook.

CONCERNING SOME TINGITIDAE FROM THE GULF STATES (HETEROPTERA)

By CARL J. DRAKE, Ames, Iowa.

Corythucha associata Osborn & Drake.

Common on wild or rum cherry, *Prunus serotina* Ehrh., at Starkville, Miss., July-August, 1921, collected by Mr. M. R. Smith and the writer.

Corythucha pallida Osborn & Drake.

Belmont, Miss., July 5, 1921, taken on wild mulberry by the writer. The Mississippi specimens agree with the type series and other specimens from the north in size, structure and color.

Corythucha celtidis mississippiensis, n. var.

Differs from typical form, *C. celtidis* O. & D., by the larger hood, more arched median carina and darker markings. The

posterior portion of the hood is considerably larger, and more inflated posteriorly. The color markings are much broader, darker and more prominent. The other characters are quite similar to the typical form. Length, 4 mm.; width, 2.2 mm.

This variety feeds on the southern hackberry, *Celtis mississippiensis* Bosc. The type series, adults, nymphs and eggs, were taken by the writer at Columbus, Miss., June 22-24, 1921. *Holotype* (male) and *allotype* (female) are in the writer's collection; *paratypes* in collections of Mississippi Agriculture College, Iowa State College and writer. Other specimens are at hand from Georgia, South Carolina and Tennessee.

C. celtidis Osborn & Drake feeds on the sugarberry hackberry, *Celtis occidentalis* L., and is widely distributed in eastern United States. It may be easily separated from the new variety by its smaller size, lighter color and the hood and median carina.

Gargaphia amorphae Walsh.

Common on False Indigo, *Amorpha fruticosa* L. Aberdeen, June 26, 1921; Columbus, July 23-25, 1921; Prairie, July 27, 1921: Leland, Miss., Sept. 21, 1921, by the writer. *Gelchossa oblonga* Say was also taken in rather large numbers on the same food plant.

Gargaphia binotata Parshley.

Dunedin, Florida, Oct. 25, 1914, collected by Mr. W. S. Blatchley.

Stephanitis blatchleyi, n. sp.

Separated from *S.* (*Leptobyrsa*) *rhododendri* Horvath by its much smaller size much less inflated but longer hood, and narrower costal area of the elytra. It may be distinguished from *S. pyroides* Scott by the longer lateral carinae, the more strongly raised median carina, and the much smaller and less inflated hood. Length 3.2 mm.; width 1.7 mm.

Hood long, moderately large, extending a little in front of the head, the length nearly two and a half times its width. Head, except eyes and lateral margins, concealed by the hood, the spines very short. Rostrum stout, long, extending slightly beyond the rostral channel. Rostral laminae considerably raised, gradually widening posteriorly on the meso—and metasternum. Median carina distinctly arched in front of the middle (arch nearly as high as the hood), subequal to the hood in length, and connected to the median nervure of hood near the base, about the middle of the posterior portion. Lateral carina long, uniseriate, slightly sinuate. Paranota moderately expanded, mostly biseriate, elytra gradually expanded posteriorly, the tips rather widely separated and rounded; tumid elevation

high and narrow, occupying almost all of subcostal and discoidal areas; costal area broad, with two rows of areolae at the base and with five at its widest part. Nervures sparsely clothed with a few, fine, long hairs; lateral margins of paranota and elytra finely and rather regularly serrate (two rows). Antennae rather long, moderately slender; first segment a little thicker and nearly twice as long as the second; third segment nearly two and a half times as long as the fourth. Bucculae contiguous in front.

General color yellowish brown with brown or fuscous markings. Tarsi and fourth antennal segment, except small basal portion fuscous. Median nervure of hood, a spot on median carina, three narrow, transverse streaks (mostly nervures) on costal area and a couple small marks on tumid elevation brown or fuscous. Body beneath brownish.

Type (male), Dunedin, Fla., Jan. 17, 1919, Mr. W. S. Blatchley collector, in writer's collection. *Paratypes* in collection of Blatchley. This species is very distinct and not easily confused with the North and South American species of *Stephanitis* and *Leptobyrsa*.

The generic characters of *Stephanitis* and *Leptobyrsa* need to be studied carefully. The hood, lateral carinae and length of elytra vary in different species. One North American species of *Leptobyra* has no lateral carina; in some species the hood is present and in others it is wanting.

Leptodictya tabida Herrich-Schaffer.

Brownsville, Texas, Dec. 19, 1910. This is the first record of the sugar-cane tingitid in United States. It is a fairly common species in Mexico and the West Indies and at times is of considerable economic importance.

Leptodictya plana Heidemann.

Columbus, Miss., June 24, 1921, and Starkville, Miss., Aug. 1921, collected by the writer. The specimens were swept from grasses but I was not able to locate the food plant.

Leptoypha costata Parshley.

This species was taken in large numbers on an ash tree, *Fraxinus* sp., at Aberdeen, Miss., June 26, 1921, by H. L. Dozier and the writer.

Leptoypha mcatella Drake.

Dunedin, Fla., April 8, 1921, W. S. Blatchely collector. This species feeds on wild olive, *Osmanthus americanus*, and the types were taken at Gainesville, Fla.

Teleonemia cylindricornis Champion.

Caledonia, Miss., June 25, 1921, M. R. Smith collector. Palaski,

Ill., June 28, 1909, taken in an old cypress swamp. This is the first record of this lace bug in the United States. The specimens agree with Champion's description and figure, and with my specimens from Mexico, except that the subcostal area is slightly wider and contains two and a partial third row of areolae. This difference is not very marked and does not seem to warrant a varietal name.

Athaes angustroriparius Heidemann.

Taken in company with *A. mimeticus* Heid. and *A. insignis* Heid. at Tupelo, July 1, Belmont, July 5, Leland, Aug. 15, and Columbus, Miss., June 24, 1921, on *Desmodium* sp. Recorded heretofore from Florida and Texas.

THE CAMPHOR THRIPS IN FORMOSA

Ever since the Camphor Thrips (*Liothrips floridensis* (Wats.)) was discovered in 1912 there has been more or less speculation as to its origin. A survey of the state during the following two years showed that it was widely but not universally distributed wherever camphor was grown. It has never been taken on the Lower East Coast and camphor in that section, south of Cocoa, shows no injury. It also seemed to be absent from many localities in other parts of the state. Nevertheless its wide distribution indicated that it had been long in the state. Its spotted distribution and the severe injury it inflicted suggested an introduced insect (Annual Rep. Fla. Agric. Exp. Sta., 1913,p.lxiv.). For some time it was confused with the Bay Thrips (*Liothrips perseae* (Mason)), which led to the conclusion that it was a native insect.

The writer has recently received three adults from Prof. R. Takahashi of the Agricultural Research Institute at Taihoku, Formosa, Japan. Altho these specimens have somewhat larger and darker bristles than Florida specimens, there can be no doubt of their specific identity.

It would thus seem that the camphor thrips was introduced into Florida from Formosa with the camphor tree itself. Prof. Takahashi states that the insect is scarce in Formosa and the damage it does is consequently of little importance.

J. R. WATSON.

The

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MEETINGS OF THE SOCIETY

Nov. 8, The Society met in Science Hall with President J. S. Rogers in the chair and the following members present: Bates, Bratley, Berger, Cody, Floyd, Hubbell, Merrill, and Watson. Visitors present were Prof. H. B. Sherman of the Department of Biology, Chardkoff, Limebaugh, and Miller.

The resignation of Mr. Beyer as Secretary and Business Manager of the Entomologist was presented. The Society voted an expression of gratitude to Mr. Beyer for his long, faithful and efficient service to the Society. Mr. Homer Bratley was elected Secretary of the Society and Professor John Gray Treasurer and Business Manager of the Entomologist.

The paper of the evening was by Prof. T. H. Hubbell on "The Biology of the Grouse Locusts". He gave a detailed and comprehensive discussion of the food, breeding habits, habitats, and color variations of these small orthoptera. They feed mostly on decaying vegetation in the soil and inhabit moist ground along the borders of swamps and streams. They are of little economic importance. Unlike most orthoptera these insects are good divers and can remain under water for some time.

Mr. M. T. Inman, a chemist of the Kay Research Company of Pittsburgh, Pa., is spending the winter in Gainesville carrying on investigations with an insecticide called "aldehol," a mixture of comparatively high boiling point alcohols, aldehydides, and other oxidized hydrocarbons.

DISTRIBUTIONAL NOTES ON NORTH AMERICAN ORTHOPTERA—I.

BY TUEODORE H. HUBBELL,
(Gainesville, Florida[1])

The following records are of interest because they present additional data concering some rare or local species which have been seldom recorded, or because they mark extensions of the known ranges of better-known forms. Unless otherwise indicated, the material is in the collection of the Museum of Zoology of the University of Michigan.

Mantoida maya (Saussure & Zehntner).

FLORIDA: Manatee, Manatee Co., viii.22.1925 (T.H.H.) 1 ♀; Orlando, Orange Co., ix.20.1924 (T.H.H.) 1 ♀ ;Archer, Alachua Co., viii.11.1925 (T. H.H.) 1 ♂, 1 ♀; Columbia Co., approx. 3½ miles north of the Santa Fe River, on the High Springs-Lake City road, vii.22.1925 (T.H.H.) 4 ♂, 2 ♀.

This little Mantid has been thought to be characteristic of the tropical element in the Floridian fauna, having hitherto been taken in the United States only in south Florida. Its discovery in some numbers as far north as Columbia County indicates that it probably occurs throughout peninsular Florida, and perhaps even in southeastern Georgia.

All of the specimens taken by the writer were found at night, while collecting with the aid of an electric headlight. A number of other supposedly rare species have been taken commonly in this way, and it seems probable that *Mantoida maya*, as well as many other interesting Orthoptera, has escaped attention chiefly on account of its nocturnal habits. No specimens were taken on lighted sheets set up near its habitat.

At Manatee a single female was swept from palmetto and dwarf oak scrub on cut-over sandy pine land. The Orlando specimen was taken on a bush of *Ceratiola ericoides* ("rosemary")—one of a patch growing beside the margins of a small pond in the "sand scrub" area 5 miles west of the town. This locality, now rapidly being subdivided, was also the habitat of a number of other interesting forms, including four new species of Cyrtacanthacrinae.

In Alachua and Columbia Counties *M. maya* was found in open groves of *Quercus catesbaei* on sandy soil—"high oak" as the habitat is locally known. At Archer this oak growth is more open, with tall grasses, dog fennel, and occasional *Ceratiola*

bushes among the trees. The oak grove in Columbia County is dense enough to be called woods; under the trees oak seedlings, dwarf oaks, chinquepin and various bushes and herbaceous plants form a low but rather thick undergrowth.

Most of the specimens were taken by sweeping the oak and chinquepin undergrowth. Two pairs were taken in copula in Columbia County. The series obtained is the result of several hours of careful collecting.

Acrydium brunneri (Bolivar).

WISCONSIN: Mamie Lake, Vilas Co., vii.4-16.1919 (T.H.H.) 3 ♂, 5 ♀.

Taken in a drained bog of small extent, bordered by a growth of willows, alder, young aspens and other shrubbery. The specimens were found among clumps of withered sphagnum, burned logs and stumps, and patches of fireweed and other invading vegetation.

Neotettix proavus Rehn & Hebard.

FLORIDA: Tallahassee, Leon Co., iv.24.1924 (T.H.H.) 3 juv.; "Camp Torreya", 4 miles southwest of Rock Bluff Postoffice, Liberty Co., iv.24-26, 1924 (T.H.H.) 5 juv.; v.29-vi.2, 1924 (T. H. H.) 9 large juv.; vii.1. 1925 (T.H.H.) 1 ♂, 3 ♀; Rock Bluff Landing, Liberty Co., vi.1. 1924 (T.H.H.) 2 ♀; Gainesville, Alachua Co., vii.8. 1924 (F. W. Walker) 1 ♀ (Collection F. W. Walker).

The Leon County and Liberty County material was taken in heavy ravine forests composed largely of beech and magnolia; the Alachua County specimen in rich hammock of water oaks, live oaks, sweet gum, red bay, and many other trees.

Paratettix toltecus (Saussure).

TEXAS: Phantom Lake, Davis Mts., Jeff Davis Co., vi.21.1916 (F. M. Gaige) 1 ♀.[2]

LOUISIANA: Winnifield, Winn Parish, vi.30-vii.3.1918 (G. R. Pilate) large series.*[3]

FLORIDA: Chattahoochee, Gadsden Co., vii.28.1925 (T.H.H). 32 specimens.

The Louisiana and Florida series each contains about twice as many of the short as of the long forms. The Florida specimens were taken about the wet clay margins of a small pool on the flood-plain of the Apalachicola River, on the bare moist clay or in the marginal growth of close-cropped grass. Apparently

P. toltecus has not previously been recorded from Texas or Louisiana, and this constitutes the third Florida record.

Paxilla obesa (Scudder) .

FLORIDA: 4 miles west of Cottondale, Jackson Co.. viii:2. 1925 (T.H.H.) 1 ♂.

GEORGIA: Thomas, Floyd Co., ix.9.1924 (T.H.H.) 5 ♂, 3 ♀ 1 juv. ♀ (5).

The Jackson Co. male was swept from low grass on moist mucky soil, at the margin of the *Hypericum* belt surrounding a dry cypress pond in pine woods. The Georgia specimens were taken in a patch of open swampy woods of sour gum and other trees, bordered by a grove of long-leaf pines. This species has been taken in large numbers in various parts of northern Florida by Mr. F. W. Walker and the writer; these records are reserved for a future publication.

Tettigidea prorsa Scudder.

FLORIDA: De Funiak Springs, Walton Co., vi.15.1924 (T.H.H.) 2 ♂, 5 ♀.

Found in small numbers in the margin of a small swampy depression, overgrown with brush and tall herbage. One male and two females macropterous.

Achurum sumichrasti (Saussure).

TEXAS: Cherry Canyon, Davis Mts., Jeff Davis Co., vii.9.1916 (F. M. Gaige) 1 ♀*.[4]

Alpha apache (Rehn & Hebard).

TEXAS: Phantom Lake, Davis Mts., Jeff Davis Co., vi.1. 1916 (F. M. Gaige) 1 ♂, 1 juv.*

Chloealtis abdominalis (Thomas)

WISCONSIN: Mamie Lake, Vilas Co., vii.16.-viii.6.1919 (T.H.H.) 7 ♂, 4 ♀.

Numerous in the drained bog mentioned under *Acrydium brunneri,* and also taken in the open grassy aspen groves bordering the lake.

Goniatron planum Bruner.

TEXAS: Phantom Lake, Davis Mts., Jeff Davis Co., vi.1-5. 1916 (F. M. Gaige) 3 ♂, 1 ♀.

Rehn[5] has recently recorded this species from numerous localities in western Texas and New Mexico; it was previously unknown from the United States.

Arphia sulphurea (Fabricius).

LOUISIANA: Winfield, Winn Parrish, v.13.-18.1918 (G. R. Pilate) 1 ♂, 1 ♀.*

FLORIDA: Houston, Suwannee Co., iv.28.1924 (T.H.H.) 1♂.

The Florida specimen was taken in a sunny clearing in open, cut-over woods of sweet-gum, hickory and oaks. Leon County is the only other Florida locality.

Leprus cyaneus Cockerell.

TEXAS: Phantom Lake, Davis Mts., Jeff Davis Co., viii. 8. 1916 (F. M. Gaige) 1 ♂.*

NEW MEXICO: Organ Mts., Dona Ana Co., ix.5.1924 (W. A. Archer) 3 ♀.

Spharagemon aequale (Say).

ILLINOIS: Chicago, Cook Co., (C. T. Brues) 1 ♂.

Spharagemon cristatum Scudder.

LOUISIANA: Winnfield, Winn Parish, v.13.1918 (G. R. Pilate) 1 ♂, 1 ♀.*

Spharagemon inornatum Morse.

TEXAS: Cherry Canyon, Davis Mts., Jeff Davis Co., vi.28. 1916 (F. M. Gaige) 1 ♀.*

Trimerotropis agrestis McNeill.

COLORADO: Sedalia, Douglas Co., viii.7.1921 (A. I. Ortenburger 1 ♀; Morrison, Jefferson Co., viii.6.1921 (A. I. Ortenburger) 1 ♀.

Trimerotropis albolineata (Bruner).

CALIFORNIA: Claremont, Los Angeles Co., March 1916 (M. H. Hatch) 1 ♂, 1 ♀.*

Trimerotropis huroniana E. M. Walker.

MICHIGAN: Schoolcraft, Mackinac, Emmett, Charlevoix, Leelenau and Grand Traverse Counties.

This species, hitherto known only from Ontario, has been found to be the common beach grasshopper on the northern shores of Lake Michigan and Lake Huron. Detailed notes on the species will be published later.

Trimerotropis rubripes Rehn.

TEXAS: Phantom Lake, Davis Mts., Jeff Davis Co., vi.4.1916 (F. M. Gaige) 1 ♀.*

Reported from the Rio Grande region in extreme western Texas and up the valley to Albuquerque, New Mexico.

[1] Contribution from the Department of Biology, University of Florida.
[2] Determined by J. L. Hancock 1918.
[3] All records followed by a star were determined by J. A. G. Rehn 1919.
[4] Determined by Rehn 1919 as *Achurum acridodes* Stal, recently shown by Hebard to be synonymous.
[5] Rehn, 1919—A Study of the Ligurotettigi. Trans. Amer. Ent. Soc., 49, 55.

A NEW SPECIES OF SYMPHYOTHRIPS (RETICULATUS FROM ARGENTINA

(Continued from page 30.)

Measurements. Body length 1.7 mm. Head, length .26 mm. width .22 mm.; prothorax, length .18 mm; width .36 mm; mesothorax, width .41 mm; abdomen, width .46 mm; tube, length .21 mm, width at base .12 mm., at apex .046 mm.

Antennal segments	1	2	3	4	5	6	7	
length	36	59	95	86	74	60	78	
width	50	38	36	40	38	35	31	microns.

Total antennal length .46 mm.

This species, altho plainly a *Symphyothrips*, has some structures which suggest other genera. The reticulated surface of the head and prothorax would suggest *Glyptothrips*, the strongly thickened fore femora *Nesothrips* and the tibial tooth *Kladothripinae*.

Described from a single female taken from the skin of a tangerine from Buenos Ayres at New York by Emile Kostal of the Federal Horticultural Board, July 2, 1924.

NETTLING CATERPILLARS

Three caterpillars which are provided with nettling hairs are common in Florida. They are the Saddle-back (*Sibere stimylea* Clemens), the larva of the Hag Moth (*Phobetron pithecium* S & A), and the larva of the Puss Moth (*Megalopyge opercularis* S & A). The result of coming into contact with the nettling hairs of these caterpillars varies greatly with different individuals. An instance of very severe pain caused by the Puss Moth larva has recently been reported by Mr. E. W. Pettersen, a drug-

gist of Pensacola, who sent the caterpillar to the Experiment Station for identification. "The patient (a woman) was brought in from the country in a taxi. She had every sympton of suffering severely. Her arm near the elbow was very much swollen and very much inflamed. Almost her entire body was cold. She appeared very much depressed. We had to give a narcotic to relieve the pain followed by the usual treatment in such cases. The party recovered in two days."

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